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LIST OF  
BULLETINS AND CIRCULARS  
ISSUED BY THE  
U. S. DEPARTMENT OF AGRICULTURE  
AND  
AVAILABLE FOR FREE DISTRIBUTION.

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CORRECTED TO OCTOBER 15, 1900.

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# United States Department of Agriculture,

## DIVISION OF PUBLICATIONS.

WASHINGTON, D. C., *October 15, 1900.*

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NOTE.—Copies of the publications in the accompanying list will be sent free, so long as the editions permit, on application to the Secretary of Agriculture, Washington, D. C. Applications for Farmers' Bulletins may also be sent to Senators, Representatives, and Delegates in Congress, each of whom has a quota of several thousand copies for distribution among constituents.

The Farmers' Bulletins and Circulars of Information issued by the U. S. Department of Agriculture are printed in large editions and are for free distribution, the object being to supply farmers and others interested in Agriculture and kindred subjects with condensed and practical information. It is expected, however, that applicants will ask for only such publications as are likely to be of special interest to them, and not with a view of getting complete sets, which might embrace certain bulletins or circulars of no use to them but which would be of great value to some one else. If applicants will bear this fact in mind, they will greatly aid the Department in its effort to make the widest and at the same time the most useful distribution of its publications.

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## BULLETINS AND CIRCULARS FOR FREE DISTRIBUTION.

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### FARMERS' BULLETINS.

No. 16.—Leguminous Plants for Green Manuring and for Feeding.  
Pp. 24.

CONTENTS: Green manuring—How plants get nitrogen from the air—Some crops for green manuring—Composition of green leguminous crops—Green manuring compared with feeding the crops—Alfalfa and crimson clover for feeding—Cowpeas for feeding—Advantages of soiling—Value of leguminous crops for feeding.

No. 19.—Important Insecticides: Directions for Their Preparation and Use. Pp. 32, figs. 3.

CONTENTS: Relation of food habits to remedies—Insecticides for external biting insects (food poisons)—Insecticides for external sucking insects (contact poisons)—Dusting and spraying apparatus—Remedies for subterranean insects—Remedies for insects affecting grain and other stored products—Control of insects by cultural methods—Profit in remedial measures.

No. 21.—Barnyard manure. Pp. 32, figs. 7.

CONTENTS: Manure as a farm resource—Amount, value, and composition of manures produced by different animals—Influence of age and kind of animal, of quality and quantity of food, of the nature and proportion of litter—Management and use of manure—Lasting or cumulative effect of barnyard manure.

No. 22.—The Feeding of Farm Animals. Pp. 32.

CONTENTS: Principles of feeding—Composition of the animal body—Composition and digestibility of feeding stuffs—Feeding standards for different kinds of animals—Calculation of rations—Selection of feeding stuffs—Preparation of food for animals—Feeding for fat and for lean—Wheat as a food for animals—Table showing composition of feeding stuffs.



No. 23.—Foods: Nutritive Value and Cost. Pp. 32, charts 2.

CONTENTS: Nutriment in food and how it is used in the body—Chemical composition of food materials—The fuel value of food—Definition of food and food economy—Nutritive value of different food materials—Digestibility of food—Calculation of daily dietaries—Pecuniary economy of food—Food and health.

No. 24.—Hog Cholera and Swine Plague. Pp. 16.

CONTENTS: General characters—Symptoms—Appearance on post-mortem examination—The cause of these diseases—Diagnosis and prognosis—Formula for remedy for hog cholera and swine plague—Sanitary measures to prevent the introduction of hog cholera and swine plague—Prevention of disease by proper breeding and feeding.

No. 25.—Peanuts: Culture and Uses. Pp. 24, fig. 1.

CONTENTS: Description and history—Composition—Varieties—Climate and soil suitable for peanut culture—Manuring—Culture—Harvesting—Uses.

No. 26.—Sweet Potatoes: Culture and Uses. Pp. 30, figs. 4.

CONTENTS: Propagation—Character and preparation of soil—Transplanting—Cultivation—Manuring—Harvesting and storing—Varieties—Fungous diseases and insect enemies—Uses—Cost of production.

No. 27.—Flax for Seed and Fiber in the United States. Pp. 16.

CONTENTS: Can both seed and fiber be saved?—Soil selection and preparation—Fertilizing—Rotation—Kind and quantity of seed to sow—Weeds—Harvesting the fiber—Saving the seed—Retting the straw—The "American practice."

No. 28.—Weeds: And How to Kill Them. Pp. 32, figs. 11.

CONTENTS: General methods of eradicating weeds—List of weeds attracting special attention during 1894—Table of one hundred weeds.

No. 29.—Souring of Milk and Other Changes in Milk Products. Pp. 23.

CONTENTS: Composition of milk—Causes of fermentation—Sources, number, and kinds of dairy bacteria—The souring of milk—Supposed effect of thunder storms—Other forms of fermentation—Fermentation of milk by rennet.

No. 30.—Grape Diseases on the Pacific Coast. Pp. 15, figs. 3.

CONTENTS: California vine disease—Powdery mildew—Coulure.

No. 31.—Alfalfa, or Lucern. Pp. 24, figs. 3.

CONTENTS: Name—History—Description—Varieties—Habits of growth—Preparation of the soil—Sowing the seed—Alfalfa hay—Feeding value—Soiling vs. pasturing—Alfalfa for hogs—Alfalfa in the orchard—Chemical composition—Alfalfa as a soil renovator—Destroying alfalfa—Enemies of alfalfa.

No. 32.—Silos and Silage. Pp. 32, figs. 10.

CONTENTS: Historical—Construction and cost of silos—Selection and culture of silage crops—Filling the silo—Cost of silage—Composition and feeding value of silage—Feeding silage to farm stock.

No. 33.—Peach Growing for Market. Pp. 24, figs. 21.

CONTENTS: Where peaches can be grown—Planting within easy reach of large markets—Extent of peach lands in the United States—Planting and cultivation of the orchard—Pruning—Fertilizers—Fungous diseases and insect pests—Spraying, washing, etc.—Picking and marketing the fruit—Gluts in the market—Hindrances to profitable peach culture.

No. 34.—Meats: Composition and Cooking. Pp. 29, figs. 4.

CONTENTS: Animal and vegetable foods compared—Structure, composition, texture (toughness), flavor, and digestibility of meats—The cooking of meats—Cuts of meat—Fuel value of meats.



No. 35.—Potato Culture. Pp. 24, figs. 2.

CONTENTS: Soil and rotation—Manuring—Varieties—Time to cut seed potatoes—Quantity of seed potatoes per acre—Weight and number of eyes per set—Number of cuttings and stalks per hill—Cultivation—Mulching—Harvesting and storing—Second-crop potatoes.

No. 36.—Cotton Seed and Its Products. Pp. 16.

CONTENTS:—Cotton seed—Method of manufacturing cotton-seed products—Cotton-seed oil, meal, and hulls—Cotton-seed-hull ash—Feeding cotton-seed products to farm stock—Effect on health of animals.

No. 37.—Kafir Corn: Characteristics, Culture, and Uses. Pp. 12, fig. 1.

CONTENTS: Characteristics, culture, and uses—Varieties—Soils and climate—Preparation of the soil—Methods of seeding—Cultivation and harvesting—Yield—Composition—Practical feeding tests.

No. 38.—Spraying for Fruit Diseases. Pp. 12, figs. 6.

CONTENTS: Fungicides, or remedies for plant diseases—Applying fungicides—Treatment of grape, apple, pear, quince, cherry, and plum diseases.

No. 39.—Onion Culture. Pp. 31, figs. 3.

CONTENTS: Selection and preparation of soil—Fertilizing—Seed and varieties—Growing onions from sets and from seeds sown in the field—Transplanting—Cultivation and weeding—Irrigation—Harvesting—Storing—Production of seed—Two important enemies of the onion.

No. 40.—Farm Drainage. Pp. 24, figs. 6.

CONTENTS: Structure of soils, and its relation to their drainage—Natural and artificial drainage—Surface drainage and underdrainage—Tile drainage—Open drains—Construction of open ditches.

No. 41.—Fowls: Care and Feeding. Pp. 24, figs. 4.

CONTENTS: Site for building and yards—Construction of houses—Perches, nests, drinking fountains, dust boxes, etc.—Breeds and breeding—Feeding—Brooders and incubators—Diseases and lice—Dressing and shipping.

No. 42.—Facts about Milk. Pp. 29, figs. 8.

CONTENTS: The dairy industry—Composition and causes of variation in milk—Difficulties in obtaining pure milk—Changes in milk—Care of milk—Detecting impure milk—Town and city milk supply.

No. 43.—Sewage Disposal on the Farm and the Protection of Drinking Water. Pp. 20, figs. 8.

CONTENTS: Methods of disposal of different kinds of sewage—Protection of drinking water—Ways of contamination of water—Construction of wells.

No. 44.—Commercial Fertilizers: Composition and Use. Pp. 24.

CONTENTS: The need of commercial fertilizers—Fertilizer requirements of different soils and crops—Forms, sources, and composition of fertilizing materials—Agricultural vs. commercial value of fertilizers—Purchase of fertilizers, and conditions when they may be properly used—Kind to use—How to apply.

No. 45.—Some Insects Injurious to Stored Grain. Pp. 24, figs. 18.

CONTENTS: Grain weevils—Grain moths—Flour and meal moths—Flour beetles—Meal worms—Grain beetles—The cadelle—Parasites and natural enemies—Methods of control: Preventive measures; insecticides and other destructive agencies; the bisulphide of carbon treatment; summary of principal remedies.

No. 46.—Irrigation in Humid Climates. Pp. 27, figs. 4.

CONTENTS: The advantages of an abundant supply of soil moisture—The rainfall of the growing season in the United States is insufficient for maximum yield—Extent of irrigation in the humid parts of Europe—The rainfall of Europe and the Eastern United States compared—Fertilizing value of irrigation waters—Lands best suited to irrigation in humid climates—Methods of obtaining water for irrigation—The construction of reservoirs—Methods of applying irrigation water.



No. 47.—Insects Affecting the Cotton Plant. Pp. 32, figs. 18.

CONTENTS: The cotton worm, or cotton caterpillar—The cotton bollworm—The Mexican cotton-boll weevil—Other cotton insects.

No. 48.—The Manuring of Cotton. Pp. 16.

CONTENTS: The draft of the cotton plant upon the fertility of the soil—Experiments in the manuring of cotton.

No. 49.—Sheep Feeding. Pp. 24.

CONTENTS: Feeding breeding ewes—Feeding lambs intended for breeding purposes—Feeding lambs for market.

No. 50.—Sorghum as a Forage Crop. Pp. 20, fig. 1.

CONTENTS: General characteristics and origin—Extent of cultivation in the United States—Varieties—Conditions of growth—Methods of culture—Yield—Value of forage—Chemical composition and digestibility—Objections sometimes urged against sorghum as a forage crop.

No. 51.—Standard Varieties of Chickens. Pp. 48, figs. 42.

Enumerates, describes, and illustrates forty-four varieties of barnyard fowls, popularly called chickens, and recites their respective points of superiority and general utility.

No. 52.—Sugar Beet. Pp. 48, figs. 24.

CONTENTS: Climatic conditions affecting the growth of the sugar beet—The theoretical sugar-beet belt of the United States—Growth of beets on irrigated lands—Varieties of beets—Soils—Fertilization—Precautions to be observed in applying stable manure—Preparation of the land for planting—Planting—Cultivation—Cost of growing beets—Harvesting—Siloing—Domestic production of beet seed—Comparative value of domestic and foreign-grown seed—Manufacture of sugar—Home consumption of sugar—Waste products—Cost of manufacture—Cost of factory—Cooperative factories—Statistical.

No. 53.—How to Grow Mushrooms. Pp. 20, figs. 14.

CONTENTS: Raising mushrooms from spores, or seed—Spawn—Where to grow mushrooms—Manure—Temperature—Gathering the mushrooms—Packing—Marketing—Mushroom diseases—Growing mushrooms in summer.

No. 54.—Some Common Birds in Their Relation to Agriculture. Pp. 40, figs. 22.

CONTENTS: The cuckoos—The woodpeckers—The kingbird—The phoebe—The bluejay—The crow—The bobolink, or rice bird—The red-winged blackbird—The meadow lark, or old field lark—The Baltimore oriole—The crow blackbird—The sparrows—The rose-crested grosbeak—The swallows—The cedarbird—The catbird—The brown thrasher—The house wren—The robin—The bluebird.

No. 55.—The Dairy Herd: Its Formation and Management. Pp. 24.

CONTENTS: Cattle for the dairy—Pure-bred dairy cattle and grades—The bull and his treatment—Accommodations for the herd—Health of the herd—Fall-fresh cows most profitable—Drying off cows and calving time—Abortion and milk fever—Care of calves and young stock—The pasture season and soiling—The stabling season—Feeding the herd.

No. 56.—Experiment Station Work—I. Pp. 31, figs. 10.

CONTENTS: Good vs. poor cows—Corn vs. wheat—Effects of rations richer and poorer in protein—Forage crops for pigs—Robertson silage mixture—Alfalfa—Effect of fertilizers on the proportion of grain to straw and stover—Comparative fertilizing value of the different phosphates—The harmful effects on soils of the continued use of muriate of potash—Recent progress in the study of irrigation—Potato scab—Barnyard manure—Explanation of terms.

No. 57.—Butter Making on the Farm. Pp. 16.

CONTENTS: Good milk—Creaming the milk—Deep cold-setting—The farm separator—Ripening cream—The churn—Churning—White specks in butter—Coloring butter—Salting and working butter—Make butter to suit the customer.



No. 58.—The Soy Bean as a Forage Crop. With an Appendix on Soy Beans as Food for Man. Pp. 24, figs. 5.

CONTENTS: General characteristics and origin—Varieties—Methods of culture—Harvesting—Yield—Chemical composition—Digestibility—Value and uses—Appendix: Soy beans as food for man.

No. 59.—Bee Keeping. Pp. 32, figs. 19.

CONTENTS: Locations suited to the keeping of bees—The returns to be expected from an apiary—Any one who desires to do so can learn to manipulate bees—How to avoid stings—What hive to adopt—Management in swarming—Special crops for honey alone not profitable—How to obtain surplus honey and wax—The wintering of bees—The risk of loss through disease and enemies.

No. 60.—Methods of Curing Tobacco. Pp. 16.

CONTENTS: Curing the Northern cigar tobacco—Curing tobacco in Florida—Curing White Burley tobacco—Curing bright yellow tobacco—Curing export tobacco—Marketing tobacco—Types of tobacco.

No. 61.—Asparagus Culture. Pp. 40, figs. 17.

CONTENTS: History—Botany and varieties—Production of plants from seed—Selection and preparation of soils—Planting and cultivation—Manuring beds—Cost of an asparagus bed—Harvesting and marketing—Canning—Drying—Fungous diseases—Insect enemies.

No. 62.—Marketing Farm Produce. Pp. 28, figs. 7.

CONTENTS: The trade in farm produce—General rules—Packing—The commission merchant—Particular directions: Butter, eggs, poultry and game, meats, potatoes, small fruits, fruits, vegetables, and honey.

No. 63.—Care of Milk on the Farm. Pp. 40, figs. 9.

CONTENTS: Dairy bacteria—How milk becomes impure—How to keep milk pure—Fifty dairy rules.

No. 64.—Ducks and Geese: Standard Breeds and Management. Pp. 48, figs. 37.

CONTENTS: Standard breeds of ducks—Management of ducks—Standard breeds of geese—Management of geese.

No. 65.—Experiment Station Work—II. Pp. 32, figs. 7.

CONTENTS: Common crops for forage—Stock melons—Starch in tomatoes—Crimson clover—Geese for profit—Cross pollination—A germ fertilizer—Lime as a fertilizer—Are ashes economical?—Mixing fertilizers.

No. 66.—Meadows and Pastures: Formation and Cultivation in the Middle Eastern States. Pp. 28, figs. 9.

CONTENTS: General prevalence and commercial value of grasses—Grasses as soil builders—Fertilizers for grass lands—Methods of preparing the soil—Sowing the seed—Varieties of grasses and clovers—Some grass mixtures.

No. 67.—Forestry for Farmers. Pp. 48, figs. 15.

CONTENTS: How trees grow—How to plant a forest—How to treat a wood lot—How to cultivate the wood crop—The relation of forests to farms.

No. 68.—The Black Rot of the Cabbage. Pp. 22, figs. 1.

CONTENTS: Nature and prevalence of the disease—Sources of infection—Suggestions for prevention—Prompt marketing—Storage—No danger from eating affected cabbages—Synopsis of rules for prevention.

No. 69.—Experiment Station Work—III. Pp. 32, figs. 2.

CONTENTS: Flax culture—Crimson clover—Forcing lettuce—Heating greenhouses—Corn smut—Millet disease of horses—Tuberculosis—Pasteurized cream—Kitchen and table wastes—Use of fertilizers.



No. 70.—The Principal Insect Enemies of the Grape. Pp. 23, figs. 12.

CONTENTS: The grapevine phylloxera—The grapevine fidia—The grape cane-borer—The grapevine flea beetle—The rose chafer—The grape leaf-folder—Hawk-moths and cutworms—The grape leaf-hopper—The grape berry moth.

No. 71.—Some Essentials in Beef Production. Pp. 24, figs. 17.

CONTENTS: The beef type—The use of the score card—Beef characteristics briefly defined—Selection of store or stock cattle for feeding—Breeding type vs. the block—Excellence for the block due to inherited quality rather than feed or gain—The types compared—Early maturity—The passing of the heavy-weight carcass—The economy of gain at different ages compared.

No. 72.—Cattle Ranges in the Southwest: A History of the Exhaustion of the Pasturage and Suggestions for its Restoration. Pp. 32, figs. 9.

CONTENTS: Early use and present condition of Texas pasture—Obstacles to renewal or improvement of the ranges—How the stock ranges may be renewed.

No. 73.—Experiment Station Work—IV. Pp. 32, figs. 3.

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No. 74.—Milk as Food. Pp. 39, charts 2.

CONTENTS: Food and its functions—Composition, characteristics, properties, variations, nutritive value, and digestibility of milk—Skim milk—Cream—Buttermilk—Nutritive value of milk as compared with other foods—Use of milk with other foods—Nutritive value of milk and its cost—Daily menus containing milk.

No. 75.—The Grain Smuts: How they are Caused and How to Prevent Them. Pp. 20, figs. 8.

CONTENTS: Kinds of smut—Directions for treating seed for smut—Directions for drying treated seed—Extra increase in yield as a result of seed treatment—Duty of seedsmen.

No. 76.—Tomato Growing. Pp. 30.

CONTENTS: For the early market—Medium-early and late crops—Tomatoes for canneries—Tomatoes in the greenhouse—Insect pest and remedies—Fungous enemies of the tomato.

No. 77.—The Liming of Soils. Pp. 19.

CONTENTS: The use of lime for improving soils—Direct manurial action and chemical action of lime on soils—Physical effects of liming—The effect of lime on the action of microscopic organisms in the soil—Liming sometimes injurious—Plants benefited, and plants injured by liming—Influence of lime upon some plant diseases—How often should liming be practiced—When and how to apply lime—Forms of lime used for agricultural purposes.

No. 78.—Experiment Station Work—V. Pp. 32, figs. 2.

CONTENTS: Humus in soils—Swamp, marsh, or muck soils—Rape—Velvet bean—Sunflowers—Winter protection of peach trees—Subwatering in greenhouses—Bacterial diseases of plants—Grape juice and sweet cider.

No. 79.—Experiment Station Work—VI. Pp. 28, figs. 2.

CONTENTS: Fraud in fertilizers—Sugar-beet industry—Seeding grass land—Grafting apple trees—Forest fires—American clover seed—Mushrooms as food—Pigs in stubble fields—Ensiling potatoes—Anthrax.

No. 80.—The Peach Twig-Borer: An Important Enemy of Stone Fruits. Pp. 16, figs. 5.

CONTENTS: Recent studies of the insect—History and distribution—Life history and habits—The strawberry crown-miner a distinct insect—Natural parasites—Remedies and preventives.



No. 81.—Corn Culture in the South. Pp. 24.

CONTENTS: The soil and its preparation—Rotation—Fertilizers—Varieties—Planting—Cultivation—Harvesting and storing the crop—Saving seed.

No. 82.—The Culture of Tobacco. Pp. 24.

CONTENTS: Selecting the seed—The seed bed and how prepared in the different tobacco districts—Sowing the seed—Time of sowing the seed—Planting—Cultivation—Fertilizers—Topping—Cutting—Saving seed—Insect pests.

No. 83.—Tobacco Soils. Pp. 23, fig. 1.

CONTENTS: Climate and distribution of tobacco—Soils of the several districts—Water content of tobacco soils.

No. 84.—Experiment Station Work—VII. Pp. 32, figs. 8.

CONTENTS: Home-mixed fertilizers—Forcing asparagus in the field—Field selection of seed—Potatoes as food for man—Corn stover as a feeding stuff—Feeding value of sugar beets—Salt-marsh hay—Forage crops for pigs—Ground grain vs. whole grain for chicks—Skim milk for young chickens—By-products of the dairy—Stripper butter—Curd test in cheese making—Gape disease of chickens.

No. 85.—Fish as Food. Pp. 30.

CONTENTS: Preparing fish for market—Nutritive value of fish—Place of fish in the diet—Preparing fish for the table—Daily menus containing fish—Possible dangers from eating fish.

No. 86.—Thirty Poisonous Plants of the United States. Pp. 32, figs. 24.

CONTENTS: Names, descriptions, and poisonous character of the most important poisonous plants; locality where found; symptoms of poisoning.

No. 87.—Experiment Station Work—VIII. Pp. 32, figs. 6.

CONTENTS: Soil moisture—Fertility of soils—Cover crops for orchards—Cultivating vs. cropping orchards—Transplanting trees—Fecundity of swine—Food value of eggs—Starch from sweet potatoes—The toad as a friend of the farmer.

No. 88.—Alkali Lands. Pp. 23, fig. 1.

CONTENTS: Conditions in the Yellowstone Valley—Rainfall and seepage—How salt determinations are made—Kinds of soil in the valley—Effects of underdrainage.

No. 89.—Cowpeas. Pp. 16, fig. 1.

CONTENTS: Varieties—Soil renovation—Cultivation and harvesting—Cowpeas for forage and for silage—Harvesting the seed—Feeding value.

No. 90.—Manufacture of Sorghum Sirup. Pp. 32.

CONTENTS: Centrifugal molasses—Sorghum sirup and sugar-cane sirup compared—Statistics of sorghum production—Improved varieties of sorghum—Varieties of sorghum selected for sugar manufacture—Preparing the soil, planting, and cultivation—Grinding cane—Horsepower mills—Clarifying the juice—The use of lime—Skimming, settling, and filtering—Claying the juice—Settling tanks—Evaporating—Letters from representative sirup makers.

No. 91.—Potato Diseases and Their Treatment. Pp. 12, figs. 4.

CONTENTS: Potato leaf blight or early blight—Potato blight, late blight, or rot—Brown rot—Potato scab—Tip burn, leaf burn, or scald—Arsenical poisoning of potato leaves.

No. 92.—Experiment Station Work—IX. Pp. 30.

CONTENTS: Sugar beets on alkali soils—Planting and replanting corn—Improvement of sorghum by selection—Improved culture of potatoes—Second-crop potatoes for seed—Cold vs. warm water for plants—Soils and fertilizers for forcing head lettuce—The date palm in the United States—Recent studies on the codling moth—Jerusalem artichoke for pigs—Supplements to skim milk in fattening calves—Pasteurization of milk for butter making—Gassy and tainted curds—Pure cultures of bacteria for cheese making—Explanation of terms used in discussing fertilizers, foods, feeding stuffs, etc.



No. 93.—Sugar as Food. Pp. 27.

CONTENTS: Extent of use—Chemical composition—Characteristics of cane sugar and of other kinds—The sugar cane—The sugar beet—The sugar maple—Quality of sugar from different sources—Food value of sugar—Digestion of sugar—Sugar as a flavor—Food value of molasses—Practical use of sugar in dietaries of adults—Bad effects ascribed to sugar—Effect of exercise on the amount of sugar which may be eaten—Sugar in cooked foods—Confectionery—Sugar in the dietaries of children.

No. 94.—The Vegetable Garden. Pp. 24, figs. 8.

CONTENTS: Location—Drainage—Preparation of soil—Supply of seeds and young plants—Planting—Cultivation—Insecticides—Specific directions for several vegetables.

No. 95.—Good Roads for Farmers. Pp. 47, figs. 49.

CONTENTS: Location, grading, and drainage of roads—Kinds of roads—Road materials—How to build roads—Road-building machinery—Cost of roads.

No. 96.—Raising Sheep for Mutton. Pp. 48, figs. 18.

CONTENTS: Experiments in producing mutton—Principal mutton breeds compared—Lambs preferred in the markets—Method of cutting mutton—Dipping for scab—What constitutes a good sheep—Essentials of a good fleece—General notes on sheep feeding.

No. 97.—Experiment Station Work—X. Pp. 32, figs. 5.

CONTENTS: Manure from cows—Plants for alkali soils—Influence of alkali on plants—Feeding value of the corn plant—Sows and pigs at farrowing time—The soy bean as a feeding stuff—Alfalfa hay for hogs—Animal matter for poultry—Water and animal diseases—Construction and cooling of cheese—Curing rooms—Irrigation investigations.

No. 98.—Suggestions to Southern Farmers. Pp. 48.

Summaries of addresses delivered at an Interstate Farmers' Convention held at Vicksburg Miss., February 8-10, 1899. They relate to soils, the peculiar advantages of the South for growing forage crops, raising and feeding live stock, cotton seed and its products, and other agricultural matters.

No. 99.—Three Insect Enemies of Shade Trees. Pp. 30, figs. 11.

CONTENTS: The imported elm-leaf beetle—The white-marked tussock moth—The fall webworm—Food plants—Remedies—Relative immunity from insect attack of different varieties of shade trees.

No. 100.—Hog Raising in the South. Pp. 40.

CONTENTS: Suitable location—Water—Building—Breeds and breeding—Feeds and feeding—Diseases and treatment—Experiences of successful hog raisers.

No. 101.—Millets. Pp. 28, figs. 6.

CONTENTS: Foxtail millets—Barnyard millets—Broomcorn millets—Culture of millets—Uses and feeding value—Fertilizing value.

No. 102.—Southern Forage Plants. Pp. 48, figs. 14.

CONTENTS: Formation and care of pastures—Soiling and fodder crops—The more important hay and pasture plants: Grasses; leguminous forage plants; miscellaneous forage plants—Adaptation of forage plants to soils.

No. 103.—Experiment Station Work—XI. Pp. 32, figs. 5.

CONTENTS: Excessive irrigation—Cross pollination of plums—Root pruning of fruit trees—The oxeye daisy—Poisoning by wild cherry leaves—Preserving eggs—Gestation in cows—The long clam—Silage for horses and hogs—Commercial butter cultures with pasteurized cream—The stave silo.

No. 104.—Notes on Frost. Pp. 24.

CONTENTS: How frost is formed—Seasons of frost—When to expect frost—Protection from frost, devices, etc.—General observations.



No. 105.—Experiment Station Work—XII. Pp. 32, figs. 4.

CONTENTS: Seaweed—The tillering of grains—Fertilizers for garden crops—Sweet corn and pole beans under glass—Girdling grapevines—Cereal breakfast foods—Food value of stone fruits—When to cut alfalfa—Spontaneous combustion of hay—Preservation of milk by pressure—Cream raising by dilution.

No. 106.—Breeds of Dairy Cattle. Pp. 48, figs. 21.

Gives names, numbers, history, descriptions and illustrations of all the principal breeds of dairy cattle in the United States.

No. 107.—Experiment Station Work—XIII. Pp. 32, figs. 3.

CONTENTS: Fertilizer requirements of crops—Persimmons—Forcing rhubarb—Grinding corn for cows—Waste in feeding cornstalks—Molasses for farm animals—Feeding ducks—Cost of raising calves—Feeding calves with milk of tuberculous cows—Killing the germs of tuberculosis in milk—Ropy milk and cream—Dairy salt.

No. 108.—Saltbushes. Pp. 20, figs. 9.

CONTENTS: General characteristics—Distribution of seed—Introduced saltbushes—American saltbushes—Composition and food value—Miscellaneous alkali plants—Alkali and alkali soils.

No. 109.—Farmers' Reading Courses. Pp. 20.

CONTENTS: Origin and purpose—Development in Pennsylvania, Michigan, New Hampshire, Connecticut, New York, West Virginia, and South Dakota—Publications on agriculture used or recommended in farmers' reading courses.

No. 110.—Rice Culture in the United States. Pp. 28.

CONTENTS: Varieties of rice—Production and importation—Rice lands—Rice soils—Irrigation—Methods of culture—Harvesting—Milling—Rice as a food—By-products—Rice culture in southwestern Louisiana and southeastern Texas.

No. 111. The Farmer's Interest in Good Seed. Pp. 24, figs. 7.

CONTENTS: Relation between quality of seed and amount to sow per acre—Weed seeds sown on the farm—Low-priced seed may be expensive—Results of some tests—How to secure good seed.

No. 112.—Bread and the Principles of Bread Making. Pp. 39, figs. 3.

CONTENTS: Grains and flours—Yeast and other leavening agencies—Raised bread—Special breads—Household methods of bread making—Imperfections and impurities in bread—Nutritive value and cost of bread.

No. 113.—The Apple and How to Grow It. Pp. 32, figs. 10.

CONTENTS: Uses of the apple—Propagation: Budding, grafting, etc.—Locating an orchard—Drainage and fertilizing—Planting—Selection of trees—Lists of varieties suited to large areas.

No. 114.—Experiment Station Work—XIV. Prepared in the Office of Experiment Stations, A. C. True, Director. Pp. 28, figs. 5.

CONTENTS: Influence of salt and similar substances on soil moisture—Extra early potatoes—Rotting of cranberries—Chestnuts—Low-grade Paris green—Crude petroleum as an insecticide—Skim milk in bread making—Best number of hens in one pen—Nest box for egg records—Profitable and unprofitable cows.

No. 115.—Hop Culture in California. Pp. 28, figs. 2.

CONTENTS: Varieties of hops—Where grown and yield per acre—Methods of culture—Systems of training—Harvesting and curing—Baling and marketing—Prices and wages—Hop statistics.

No. 116.—Irrigation in Fruit Growing. Pp. 48, figs. 8.

CONTENTS: Irrigation and cultivation—Effects of insufficient moisture—Development and utilization of irrigation water—Preparing the land—Methods of applying the water.



No. 117.—Sheep, Hogs, and Horses in the Pacific Northwest. Pp. 28, figs. 2.

CONTENTS: Sheep husbandry—Hog raising—The horse industry.

No. 118.—Grape Growing in the South. Pp. 32, figs. 6.

CONTENTS: Propagation—Selection of varieties—Planting, cultivation, and fertilizing—Pruning—Trellises and systems of training—Insect enemies and fungous diseases.

No. 119.—Experiment Station Work—XV. Pp. 31, figs. 5.

CONTENTS: Storing apples without ice—Cold storage on the farm—Mechanical cold storage for fruit—Keeping qualities of apples—Improvement of blueberries—Transplanting muskmelons—Banana flour—Fresh and canned tomatoes—Purslane—Mutton sheep—Effect of cotton-seed meal on the quality of butter—Grain feed of milch cows—Protection against Texas fever.

No. 120.—The Principal Insects Affecting the Tobacco Plant. Pp. 32, figs. 25.

CONTENTS: The tobacco flea-beetle—The tobacco horn worms—The bud worms—The “suck fly” and other sucking bugs—The tobacco leaf-miner—Cutworms—The cigarette beetle—Other insects—Remedies.

## CIRCULARS OF INFORMATION.

### DIVISION OF AGROSTOLOGY.

[See also Division of Botany.]

Circular No. 1.—A Note on Experimental Grass Gardens. Pp. 4.

Circular No. 3.—Saltbushes. Pp. 4, figs. 3.

Circular No. 4.—The Renewing of Worn-Out Native Prairie Pastures. Pp. 4.

Circular No. 5.—Cowpeas. Pp. 11.

Circular No. 6.—The Cultivated Vetches. Pp. 8, figs. 6,

Circular No. 7.—The Gram, Chick-Pea, or Idaho Pea. Pp. 5, fig. 1.

Circular No. 8.—Experiments in Range Improvement. Pp. 5, fig. 1.

Circular No. 11.—The Flat Pea. Pp. 6, figs. 3.

Circular No. 12.—Rape as a Forage Plant. Pp. 6, fig. 1.

Circular No. 13.—Florida Beggar Weed. Pp. 5, figs. 2.

Circular No. 14.—The Velvet Bean. Pp. 5, figs. 3.

Circular No. 15.—Recent Additions to Systematic Agrostology. Pp. 10, figs. 5.

Circular No. 16.—New Species of North American Grasses. Pp. 6, figs. 2.

Circular No. 17.—Crimson Clover. Pp. 6, fig. 1.

Circular No. 18.—Smooth Brome Grass. Pp. 9, figs. 2.

Circular No. 20.—Experiments with Forage Plants in Ontario. Pp. 3.

Circular No. 21.—Cooperative Range Grass and Forage-Plant Experiments at Highmore, S. Dak. Pp. 10, fig. 1.



Circular No. 22.—Grass and Forage-Plant Investigations on the Pacific Coast. Pp. 7.

Circular No. 23.—Progress of Experiments in Forage Crops and Range Improvement at Abilene, Tex. Pp. 20, fig. 1.

Circular No. 24.—Cowpeas and Corn for Silage and Fodder. Pp. 10, figs. 2.

Circular No. 25.—Turkestan Alfalfa. Pp. 20.

Circular No. 26.—Rescue Grass. Pp. 4, fig. 1.

#### BUREAU OF ANIMAL INDUSTRY.

Circular No. 1.—Directions for Pasteurization of Milk. P. 1, figs. 2.

Circular No. 2.—Wheat as a Food for Growing and Fattening Animals. Pp. 4.

Circular No. 3.—Nodular Tæniasis of Fowls. Pp. 3.

Circular No. 4.—Crossing Improved Breeds of Swine with the Common Hogs of Florida. Pp. 3.

Circular No. 5.—The Direct Transmission of Infectious Enterohepatitis in Turkeys. Pp. 8.

This circular discusses the nature of the disease sometimes called blackhead.

Circular No. 6.—Black Quarter. Pp. 4.

Circular No. 7.—Actinomycosis, or Lumpy Jaw. Pp. 4.

Circular No. 8.—Injuries to Cattle from Swallowing Pointed Objects. Pp. 4.

Circular No. 17.—Exports of Animals and Their Products. Pp. 3.

Circular No. 18.—List of Officials and Associations Connected with the Dairy Interests in the United States and Canada for 1897. Pp. 8.

Circular No. 22.—List of Officers and Associations Connected with the Dairy Interests of the United States and Canada for 1898. Pp. 8.

Circular No. 23, Revised.—Directions for the Use of Blackleg Vaccine. Pp. 8, figs. 3.

Circular No. 24.—Colored Spots in Cheese. Pp. 6.

Circular No. 25.—State Standards for Dairy Products. P. 1.

Circular No. 26.—Officials, Associations, and Educational Institutions Connected with Dairy Interests of the United States for the Year 1899. Pp. 8.

Circular No. 27, Revised.—Scales of Points for Judging Dairy Breeds of Cattle. Pp. 16, fig. 1.

Circular No. 28.—Letters Relating to the Distribution of Vaccine. Pp. 9.

Circular No. 29.—Officials, Associations, and Educational Institutions Connected with the Dairy Interests of the United States for the Year 1900. Pp. 10.



Circular No. 30.—Rabies in the District of Columbia. Pp. 15.

Circular No. 31.—Blackleg: Its Nature, Cause, and Prevention. Pp. 22.

DIVISION OF BIOLOGICAL SURVEY.

Circular No. 17.—Bird Day in the Schools. Pp. 4.

Circular No. 28.—Directory of State Officials and Organizations Concerned with the Protection of Birds and Game. Pp. 8.

Circular No. 29.—Protection and Importation of Birds under Act of Congress Approved May 25, 1900. Pp. 6.

Circular No. 30.—Wild Animals and Birds which May be Imported without Permits. Pp. 1.

DIVISION OF BOTANY.

Circular No. 1.—Hungarian Brome Grass. Pp. 4, fig. 1.

Circular No. 2.—Nut Grass (*Cyperus rotundus*). Pp. 4, fig. 1.

Circular No. 3.—The Russian Thistle. Pp. 8, figs. 3.

Circular No. 5.—Giant Knotweed or Sachaline. Pp. 4, figs. 3.

Circular No. 6.—Standards of Purity and Vitality of Agricultural Seeds. Pp. 4.

Circular No. 7.—Tumbling Mustard. Pp. 8, figs. 3.

Circular No. 8.—Crimson Clover Hair Balls. Pp. 4, figs. 2.

Circular No. 9, Revised.—Wild Garlic. Pp. 8, figs. 3.

Circular No. 10.—Three New Weeds of the Mustard Family. Pp. 6, figs. 3.

Circular No. 11.—The Vitality of Seed Treated with Carbon Bisulphid. Pp. 5.

Circular No. 12.—The Camphor Tree. Pp. 7, figs. 2.

Circular No. 13.—Observations on Recent Cases of Mushroom Poisoning in the District of Columbia. Pp. 24, figs. 27.

Circular No. 14.—Dodders Infesting Clover and Alfalfa. Pp. 7, figs. 2.

Circular No. 15.—Horse-Radish. Pp. 8.

Circular No. 16.—The Section of Seed and Plant Introduction. Pp. 6.

Circular No. 17.—Notes on the Plant Products of the Philippine Islands. Pp. 8.

Circular No. 18.—Crimson Clover Seed. Pp. 4, fig. 1.

Circular No. 19.—Hop Cultivation in Bohemia. Pp. 6.

Circular No. 20.—Horse-Radish Culture in Bohemia. Pp. 3, figs. 2.

Circular No. 21.—Yams in the West Indies. Pp. 4, fig. 1.

Circular No. 22.—The Bur, or Globe, Artichoke. Pp. 6, fig. 1.

Circular No. 23.—The Lebbek or Siris Tree. Pp. 4, figs. 2.



- Circular No. 24.—Red Clover Seed. Pp. 5, figs. 2.  
 Circular No. 25.—The Seed of Beardless Brome Grass. Pp. 5, fig. 1.  
 Circular No. 26.—Egyptian Cotton in the United States. Pp. 9.  
 Circular No. 27.—Canada Thistle. Pp. 14, figs. 4.  
 Circular No. 28.—Rubber Cultivation for Porto Rico. Pp. 12.

## DIVISION OF CHEMISTRY.

- Circular No. 1.—The Manufacture of Sorghum Sirup. Pp. 3.  
 Circular No. 5.—Chemical Examination of Canned Meats. Pp. 7.

## DIVISION OF ENTOMOLOGY.

- Circular No. 2.—The Hop Plant Louse and the Remedies to be Used Against It. Pp. 7, pl. 1, figs. 5.  
 Circular No. 4.—The Army Worm. Pp. 5, figs. 3.  
 Circular No. 5.—The Carpet Beetle, or "Buffalo" Moth. Pp. 4, fig. 1.  
 Circular No. 7.—The Pear Tree Psylla. Pp. 8, figs. 6.  
 Circular No. 8.—The Imported Elm Leaf Beetle. Pp. 4, figs. 4.  
 Circular No. 9.—Canker-Worms. Pp. 4, figs. 4.  
 Circular No. 10.—The Harlequin Cabbage Bug, or Calico Back. Pp. 2, fig. 1.  
 Circular No. 11.—The Rose Chafer. Pp. 4, fig. 1.  
 Circular No. 12, Revised.—The Hessian Fly. Pp. 4, fig. 1.  
 Circular No. 13, Revised.—Mosquitoes and Fleas. Pp. 4.  
 Circular No. 14.—The Mexican Cotton-boll Weevil. Pp. 8, figs. 5.  
 [Revision of Circular No. 6, printed in two editions—English and Spanish.]  
 Circular No. 16.—The Larger Corn Stalk Borer. Pp. 3, figs. 3.  
 Circular No. 17.—The Peach Tree Borer. Pp. 4, fig. 1.  
 Circular No. 18.—The Mexican Cotton-boll Weevil. Pp. 8, figs. 5.  
 [Revised edition of No. 14, printed in two editions—English and Spanish.]  
 Circular No. 19.—The Clover Mite. Pp. 4, fig. 1.  
 Circular No. 20.—The Woolly Aphis of the Apple. Pp. 6, figs. 2.  
 Circular No. 21.—The Strawberry Weevil. Pp. 7, figs. 4.  
 Circular No. 23.—The Buffalo Tree-hopper. Pp. 4, figs. 2.  
 Circular No. 24.—The Two-lined Chestnut Borer. Pp. 8, fig. 1.  
 Circular No. 25.—The Ox-Warble. Pp. 10, figs. 10.  
 Circular No. 26.—The Pear Slug. Pp. 7, figs. 4.  
 Circular No. 27.—The Mexican Cotton-boll Weevil in 1897. Pp. 7.  
 Circular No. 28.—The Boxelder Plant-bug. Pp. 3, fig. 1.  
 Circular No. 29.—The Fruit-tree Bark-beetle. Pp. 8, figs. 4.



- Circular No. 31.—The Striped Cucumber Beetle. Pp. 7, figs. 2.  
 Circular No. 32.—The Larger Apple-tree Borer. Pp. 12, figs. 3.  
 Circular No. 33.—Remedial Work Against the Mexican Cotton-boll Weevil. Pp. 6.  
 Circular No. 34.—House Ants. Pp. 4, figs. 3.  
 Circular No. 35.—House Flies. Pp. 8, figs. 6.  
 Circular No. 36.—The True Clothes Moth. Pp. 8, figs. 3.  
 Circular No. 37.—The Use of Hydrocyanic Acid Gas for Fumigating Greenhouses and Cold Frames. Pp. 10, figs. 3.  
 Circular No. 38.—The Squash-vine Borer. Pp. 6, figs. 2.  
 Circular No. 39.—The Common Squash Bug. Pp. 5, figs. 3.  
 Circular No. 40.—How to Distinguish the Different Mosquitos of America. Pp. 7, figs. 3.  
 Circular No. 41.—Regulations of Foreign Governments Regarding Importation of American Plants, Trees, and Fruits. Pp. 4.

#### OFFICE OF EXPERIMENT STATIONS.

- Circular No. 25, Revised.—Canaigre. Pp. 4, fig. 1.  
 Circular No. 27.—Statistics of Agricultural Colleges and Experiment Stations. Pp. 18.  
 Circular No. 28, Revised.—Broom Corn. Pp. 4.  
 Circular No. 32.—Methods of Teaching Agriculture [first report]. Pp. 20.  
 Circular No. 33.—Civil Service in the Department of Agriculture. Pp. 10.  
 Circular No. 37.—Methods of Teaching Agriculture [second report]. Pp. 4.  
 Circular No. 38.—Some Books on Agriculture and Sciences Related to Agriculture, Published 1896–1898. Pp. 45.  
 Circular No. 40.—Land-Grant and Other Colleges and the National Defense. Pp. 15.  
 Circular No. 41.—Methods of Teaching Agriculture [fourth report]. Pp. 7.  
 Circular No. 42.—A German Common School with a Garden. Pp. 7, figs. 3.  
 Circular No. 43.—Food—Nutrients—Food Economy. Pp. 6, diags. 2.  
 Circular No. 44.—Agricultural Experiment Stations in the United States. Pp. 8.  
 Agricultural Education in Scandinavia and Finland. Pp. 15, figs. 4. (Reprinted from Experiment Station Record.)  
 Agricultural Associations in Belgium. Pp. 21. (Reprinted from Experiment Station Record.)  
 List of Publications of the Office of Experiment Stations on the Food and Nutrition of Man. Pp. 6.



## SECTION OF FOREIGN MARKETS.

- Circular No. 2.—American Dried Apples in the German Empire. Pp. 3.
- Circular No. 7.—Extension of Markets for American Feed Stuffs. Pp. 8.
- Circular No. 8.—The Manchester District of England as a Market for American Products. Pp. 8, fig. 1.
- Circular No. 9.—Imports and Exports for 1893–1896. Pp. 9.
- Circular No. 10.—Course of Wheat Production and Exportation in the United States, Canada, Argentina, Uruguay, Russia, and British India from 1880 to 1896. Pp. 8.
- Circular No. 13.—Distribution of the Principal Agricultural Exports of the United States During the Five years Ended June 30, 1896. Pp. 24.
- Circular No. 14.—Hamburg as a Market for American Products. Pp. 10.
- Circular No. 15.—Exports of Cotton from Egypt. Pp. 7.
- Circular No. 16.—Our Trade with Cuba from 1887 to 1897. Pp. 30.
- Circular No. 17.—United States Wheat in Eastern Asia. Pp. 8.
- Circular No. 18.—Hawaiian Commerce from 1887 to 1897. Pp. 37.
- Circular No. 19.—Austria-Hungary as a Factor in the World's Grain Trade; Recent Use of American Wheat in That Country. Pp. 23.
- Circular No. 20.—Agricultural Imports and Exports, 1893–1897. Pp. 15.
- Circular No. 21.—Agricultural Imports and Exports, 1894–1898. Pp. 16.
- Circular No. 22.—Agricultural Imports and Exports, 1895–1899. Pp. 20.

## DIVISION OF FORESTRY.

- Circular No. 10.—Suggestions to the Lumbermen of the United States in Behalf of More Rational Forest Management. Pp. 8.
- Circular No. 12.—Southern Pine: Mechanical and Physical Properties. Pp. 12, figs. 4.
- Circular No. 15.—Summary of Mechanical Tests on Thirty-two Species of American Woods. Pp. 12.
- Circular No. 18.—Progress in Timber Physics. Pp. 20, diags. 11.
- Circular No. 19.—Progress in Timber Physics. Bald Cypress. Pp. 24.
- Circular No. 21.—Practical Assistance to Farmers, Lumbermen, and Others in Handling Forest Lands. Pp. 5.
- Circular No. 22.—Practical Assistance to Tree Planters. Pp. 11, figs. 5.

## DIVISION OF GARDENS AND GROUNDS.

- Circular No. 1.—An Experiment in Tea Culture. Pp. 10.



## DIVISION OF POMOLOGY.

Circular No. 3.—Notes on Peach Culture. Pp. 10, figs. 4.

## DIVISION OF PUBLICATIONS.

Circular No. 179.—List of Publications of the Department of Agriculture for Sale by the Superintendent of Documents. Pp. 36. (Revised and corrected to July 1, 1900.)

Circular No. 218.—The Publication Work of the Department of Agriculture as Affected by the Law of January 12, 1895. Pp. 4.

Circular No. 247.—List of Farmers' Bulletins and Circulars of Information Available for Distribution. Pp. 20. (Revised and corrected to October 15, 1900.)

## Monthly List of Publications.

This list is issued on the last day of each month and contains the titles of all publications issued by the Department of Agriculture during the month. The Monthly List is mailed regularly to all persons who request to have their names enrolled for that purpose.

## OFFICE OF ROAD INQUIRY.

Circular No. 14.—Addresses on Road Improvement. Pp. 15.

Circular No. 15.—An Act to provide for the Construction of Roads by Local Assessment, County and State Aid. Pp. 3.

Circular No. 18.—Report of Committee on Legislation, adopted by the State Good Roads Convention held in Richmond, Va., October 10 and 11, 1895. Pp. 6.

Circular No. 19.—Traffic on the Country Roads. Opinions of Representative Men. Pp. 4.

Circular No. 20.—Comments on Systems of Maintaining Country Roads. Pp. 7.

Circular No. 21.—Methods of Constructing Macadamized Roads. Pp. 12.

Extract from a report prepared by the Chief Engineering Inspector of the Local Government Board of Great Britain.

Circular No. 22.—Appeal for State organization in Tennessee. Pp. 3.

Circular No. 23.—Money Value of Good Roads to Farmers. Pp. 4.

Circular No. 24.—Highway Maintenance and Repairs. Pp. 16.

Highway taxation; comparative results of labor and money systems; contract system of maintaining roads.

Circular No. 25.—Brick Paving for Country Roads. Pp. 7, figs. 6.

Circular No. 27.—Cost of Hauling Farm Products in Europe. Pp. 12.

Circular No. 28.—Addresses on Road Improvement in Maine, North Carolina, New York, and Illinois. Pp. 26.

Circular No. 29.—The Forces which Operate to Destroy Roads, with notes on road stones and problems therewith connected. Pp. 14, pls. 4.

Circular No. 30.—Repairs of Macadam Roads. Pp. 14.



Circular No. 31.—Must the Farmer Pay for Good Roads? Pp. 40, figs. 48.

Circular No. 32.—State Aid to Road Building in Minnesota. Pp. 12, figs. 5.

Circular No. 33.—Road Improvement in Governors' Messages. Pp. 14.

Circular No. 34.—The Social, Commercial, and Economic Phases of the Road Subject. Pp. 8.

Circular No. 35.—Road Improvement in New York. Pp. 15.

#### OFFICE OF THE SECRETARY.

Circular No. 2.—Protest Against Proposed Legislation Restricting the Experiments of the Department of Agriculture. Pp. 8.

Circular No. 3.—Progress of Southern Agriculture. Pp. 12.

Circular No. 5.—Civil Service in the Department of Agriculture. Pp. 4.

Circular No. 6.—Number, Status, and Compensation of Employees in the Department of Agriculture. Pp. 4.

Circular No. 7.—Possible Influence of Importation of Hawaiian Sugar on Beet-Sugar Production in the United States. Pp. 4.

#### DIVISION OF SOILS.

Circular No. 3.—The Soils of the Pecos Valley, New Mexico. Pp. 7.

Circular No. 4.—Soils of Salt Lake Valley, Utah. Pp. 11, fig. 1.

Circular No. 5.—Bulk Fermentation of Connecticut Tobacco. Pp. 10.

Circular No. 6.—Instructions for Determining in the Field the Salt Content of Alkali Waters and Soils. Pp. 9.

#### DIVISION OF STATISTICS.

Circular No. 1.—Acreage, Production, and Value of Principal Farm Crops in the United States, 1866 to 1895, with Other Data as to Cotton and Wool. Pp. 8.

Circular No. 2.—The Wheat Crop of the World for 1895. Pp. 2.

Circular No. 3.—The Farmers' Interest in Finance. Pp. 15.

Circular No. 4.—The Cotton Crop of 1895. Pp. 15.

Circular No. 5.—Local Taxation as Affecting Farms. Pp. 16.

Circular No. 6.—Cereal Crops of 1896. Pp. 12.

Circular No. 8.—The Cotton Crop of 1896-97. Pp. 4.

Circular No. 10.—The Brazos River (Texas) Flood of June-July, 1899, and its Effect on the Agriculture of the Submerged Region. Pp. 8.

Circular No. 11.—The World's Grain Crops in 1899. Pp. 8.

Circular No. 12.—Changes in Railroad Freight Classifications. Pp. 43.



## DIVISION OF VEGETABLE PHYSIOLOGY AND PATHOLOGY.

- Circular No. 15.—Treatment of Sooty Mold of the Orange. Pp. 4.  
 Circular No. 17.—New Spraying Devices. Pp. 4, figs. 3.

## MISCELLANEOUS CIRCULARS.

- Circular No. 1.—The Castor Oil Plant. Pp. 4.  
 Circular No. 2.—The Mississippi River Flood. Pp. 6.  
 Circular No. 3.—The Mississippi River Flood [second report]. Pp. 4.  
 Opinions of Scientific Men with Regard to the Proposition for a  
 Director-in-Chief of Scientific Bureaus in the Department of Agri-  
 culture. Pp. 12.

## EXTRACTS.

[Reprinted from the Yearbook for 1894.]

2. Education and Research in Agriculture in the United States. Pp. 35.
7. Mineral Phosphates and Fertilizers. Pp. 16, figs. 2.
10. Hawks and Owls from the Standpoint of the Farmer. Pp. 17, pls. 3, figs. 4.
11. The Crow Blackbirds and Their Food. Pp. 15, fig. 1.
15. Some Practical Suggestions for the Suppression and Prevention of Bovine Tuberculosis. Pp. 13.
18. Pure Seed Investigation. Pp. 20, figs. 9.
20. Grasses as Sand and Soil Binders. Pp. 16, figs. 11.
21. Sketch of the Relationship between American and Eastern Asian Fruits. Pp. 6.
24. Best Roads for Farmers and Farming Districts. Pp. 4, figs. 7.
25. State Highways in Massachusetts. Pp. 8.
26. Improvement of Public Roads in North Carolina. Pp. 8, pls. 2.
27. Tobacco Soils of Connecticut and Pennsylvania. Pp. 13, figs. 7.
28. Truck Lands of the Atlantic Seaboard. Pp. 15, figs. 3.
29. Conditions in Soils in the Arid Region. Pp. 15, figs. 3.
30. Weather Conditions of the Crop of 1894. Pp. 5, figs. 2.
31. Three Articles on Roads. Pp. 22, pls. 2, figs. 7.
  1. Best Roads for Farmers and Farming Districts.
  2. State Highways in Massachusetts.
  3. Improvement of Public Roads in North Carolina.

[Reprinted from the Yearbook for 1895.]

34. Testing Seeds at Home. Pp. 9, figs. 3.
37. The Meadow Lark and the Baltimore Oriole. Pp. 12, figs. 2.
38. Hemp Culture. Pp. 8.



41. Some additions to Our Vegetable Dietary. Pp. 10, figs. 9.
42. Work of the Department of Agriculture as Illustrated at the Atlanta Exposition. Pp. 20, fig. 1, pls. 3.
44. (Part 2.) Butter Substitutes. Pp. 8.
45. Sufficiency of Milk Separators in Removing Bacteria. Pp. 14, figs. 8.
46. Climate, Soil, and Irrigation in California. Pp. 12, pls. 2, figs. 5.
47. Small Fruit Culture for Market. Pp. 12, pl. 1.
50. Pear Blight: Its Cause and Prevention. Pp. 6.
52. Two Hundred Weeds: How to Know and Kill Them. Pp. 18.
55. Pineapple Industry in the United States. Pp. 14, pl. 1, figs. 6.  
(Reprinted from the Yearbook for 1896.)
60. Timothy in the Prairie Region. Pp. 8, figs. 2.
62. The Country Slaughterhouse as a Factor in the Spread of Disease. Pp. 12.
66. The Blue Jay and Its Food. Pp. 10, figs. 3.
73. The Use of Steam Apparatus for Spraying. Pp. 20, pl. 2, figs. 15.
74. Insect Control in California. Pp. 20, figs. 2, pl. 1.
75. Asparagus Beetles. Pp. 12, figs. 6.
76. The Feeding Value of Corn Stover. Pp. 8.
77. Improvement of Our Native Fruits. Pp. 8.
78. Agricultural Research and Education in Belgium. Pp. 10.
81. Irrigation on the Great Plains. Pp. 30, figs. 9, pls. 2.
82. Diseases of Shade and Ornamental Trees. Pp. 18, figs. 5.
83. Influence of Environment in the Origination of Plant Varieties.  
Pp. 18, figs. 8.
87. Pruning and Training Grapevines. Pp. 42, figs. 21.
88. An Ideal Department of Agriculture and Industries. Pp. 10.

[Reprinted from the Annual Report of 1891.]

89. Grass and Forage Experiment Station at Garden City, Kans.  
By Dr. J. A. Sewall. Cooperative Branch Stations in the  
South. By S. M. Tracy. Pp. 12.

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90. Division of Agrostology. Pp. 16.
91. Lawns and Lawn Making. Pp. 18, pls. 7.
93. Bureau of Animal Industry. Pp. 23.
94. Utilization of By-Products of the Dairy. Pp. 20.
97. Division of Botany. Pp. 10.
101. Danger of Importing Insect Pests. Pp. 24, figs. 18.



- 102. Office of Experiment Stations. Pp. 9.
- 104. Popular Education for the Farmer in the United States. Pp. 12.
- 105. The Needs and Requirements of a Control of Feeding Stuffs. Pp. 8.
- 106. The Agricultural Outlook of the Coast Region of Alaska. Pp. 24, pls. 4.
- 108. Office of Fiber Investigations. Pp. 13.
- 109. Present Status of Flax Culture in the United States. Pp. 16.
- 110. Section of Foreign Markets. Pp. 9.
- 111. Division of Forestry. Pp. 18.
- 112. Trees of the United States Important in Forestry. Pp. 26.
- 118. Office of Road Inquiry. Object Lesson Roads. Pp. 18, pls. 3, fig. 1.
- 120. Some Interesting Soil Problems. Pp. 12.
- 122. Agricultural Production and Prices. Pp. 14.
- 123. Division of Vegetable Physiology and Pathology. Pp. 13.
- 124. Hybrids and Their Utilization in Plant Breeding. Pp. 38, figs. 12, pls. 4.
- 126. Review of Weather and Crop Conditions Season of 1897. Pp. 20.

[Reprinted from the Yearbook for 1898.]

- 127. Sand-Binding Grasses. Pp. 18, pls. 3, figs. 11.
- 128. Millets. Pp. 26, pls. 2, figs. 6.
- 129. Forage Plants for Cultivation on Alkali Soils. Pp. 18, figs. 4.
- 130. Cattle Dipping: Experimental and Practical. Pp. 22, figs. 2.
- 131. The Preparation and Use of Tuberculin. Pp. 12, pl. 1.
- 132. The Danger of Introducing Noxious Animals and Birds. Pp. 26, pl. 1, figs. 6.
- 133. Birds as Weed Destroyers. Pp. 14, pl. 1, figs. 7.
- 134. Weeds in Cities and Towns. Pp. 10, figs. 5.
- 135. Can Perfumery Farming Succeed in the United States? Pp. 24, figs. 7.
- 136. Grass Seed and Its Impurities. Pp. 22, pls. 5, figs. 2.
- 137. Utilization of Residues from Beet-Sugar Manufacture in Cattle Feeding. Pp. 10.
- 139. Insects Injurious to Beans and Peas. Pp. 30, figs. 17.
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